




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,629	05/18/2004	Kazumichi MACHIDA	040184	3628
23850	7590	10/05/2004	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			CHAN, EMILY Y	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,629	MACHIDA ET AL.	
	Examiner	Art Unit	
	Emily Y Chan	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed predetermined clearance and it's connection with the probe and the reinforcement member must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims

2. Claim 5 is objected to because of the following informalities: the structural connection and functional relation among the predetermined clearance, the probes and the reinforcement member are not specified. Therefore, the examiner is unclear how the reinforcement member is inserted in the clearance. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 6-7 are rejected under 35 U.S.C. 102 (b) as being anticipated by Hasegawa ('448).

Regarding to claim 1, Hasegawa ('448) discloses a probe sheet (see Fig. 1, 14) comprising: a sheet member (elastic member 18) with a flexibility; and plural measurement probes (42) provided on one surface of the sheet member (18), wherein each of the probes (42) has a shape capable of elastic deformation in a direction, upward or downward (see Col. 9, lines 21-30) .

Regarding to claim 2, Hasegawa ('448) discloses wiring patterns (34) formed inside and/or on a surface of the sheet member (14) and an external electrode (40) connected electrically to the probes (42) through the wiring patterns (34) provided on the surface of the sheet member (14).

Regarding to claim 3, Hasegawa ('448) discloses circuit elements (16) are provided inside and/or on a surface of the sheet member (14) and the circuit elements (16) are connected electrically to the wiring patterns (34).

Regarding to claim 6, Hasegawa ('448) further discloses that his sheet member (elastic member 18) is made of silicone rubber material (see Col. 7, lines 55-56), which would inherently meet the claimed material with a linear expansion coefficient in a range of from 2.5 to 10.5 ppm/oC.

Regarding to claim 7, Hasegawa ('448) further discloses that his probe sheet (14) is a sensing section of a semiconductor wafer measuring instrument (10)(see Col. 8, lines 43-44), comprising: a base plate (12) mounted to a prober of the instrument (10), a probe sheet (14) mounted to a Lower surface of the base plate (12); and an elastic member (18) interposed between the base plate (12) and the probe sheet (14).

Therefore, Hasegawa ('448) anticipates the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa ('448) in view of Takayama et al ('783).

Hasegawa ('448) does not disclose that his probe (42) is curved and a reinforcing member with an elasticity higher than the probe (42) is provided.

Takayama et al ('783) disclose a multiplayer probe (2) (see Fig. 1) and exclusively teach that the multiplayer probe (2) is curved (see Figs 2-5) and there is a reinforcing member (2b) with an elasticity higher than the multiplayer probe (2) is provided integrally with multiplayer the probe (2) on a surface thereof along the length direction (see Col. 3, lines 10-14 and Col. 6, lines 42-44).

It would have been obvious to one of ordinary skilled in the art at the time the claimed invention was made to incorporate the curved probes and the reinforcing member of Takayama et al ('783) into Hasegawa ('448) 's probe sheet device for the expected benefit of providing a highly reliable electrical testing as disclosed by Takayama et al ('783) (see Abstract, last line).

5. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa ('448) in view of Maekawa et al (737).

Hasegawa ('448) does not disclose that his probe (42) is curved and there is a predetermined clearance and a reinforcing member with an elasticity higher than the probe (42) is inserted in the clearance.

Maekawa et al (737) disclose a probing apparatus (see Fig. 1) and exclusively teach a probe (1) that is curved (see page 3, {0033}, line 5), a predetermined clearance

(4) (see page 3, {0034} , lines 8-9), a sheet member (4a) and a reinforcing member (4b) with an elasticity higher than the probe (1) (see page 3, {0034}, last four lines).

It would have been obvious to one of ordinary skilled in the art at the time the claimed invention was made to incorporate the curved probes, the predetermined clearance and the reinforcing member of Maekawa et al (737) into Hasegawa ('448) 's probe sheet device for the expected benefit of removing foreign matters adhering to a probe tip for elongating the life of the probe as disclosed by Maekawa et al (737) (see page 2, {0015}, line 4).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chee ('420) discloses a probe assembly (see Fig. 1) and exclusively teach sheet member (18), plural measurement probes (16) and a reinforcing member (elastic member 20).

Jitsumori et al (791) disclose a probe (14) (see Figs 1-4) comprising sheet members (11 and 13).

Alcoe et al ('982) disclose probing apparatus (see Fig. 10) and exclusively teach a reinforcing member (elastomeric layer 69) used for probe biasing means.

Conclusion

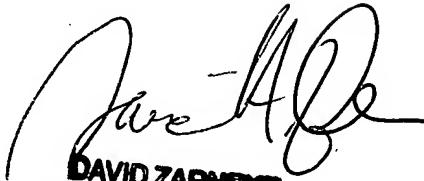
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

Art Unit: 2829

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ec
9-28-04


DAVID ZARNECKI
PRIMARY EXAMINER
DAVID ZARNECKI
PRIMARY EXAMINER
9/28/04